

SUMIDA et al. S.N. 09/752,781

NAGAYAMA et al. 6,383,683. Claims 2 and 6 were rejected under 35 USC §103(a) as being unpatentable over CAPPARELLA et al. in view of EP 0 373 791 (EP '791). Claim 4 was rejected under 35 USC §103(a) as being unpatentable over NAGAYAMA et al. in view of EP '791. Applicants respectfully traverse these rejections.

Claim 1 recites that the manganese dioxide "is obtained by soda neutralization" and "has a sodium content of 0.05 to 0.2% by weight".

The Official Action refers to Example 1 and Table 1 of CAPPARELLA et al. The referenced manganese dioxide is neutralized by lithium hydroxide rather than soda, as recited in claim 1.

CAPPARELLA et al. describe in column 4, lines 62-65, a soda neutralized manganese dioxide having a sodium content of 0.22% which is outside of the range recited in claim 1.

In view of the above remarks, applicants respectfully request recondition and withdrawal of the rejection of claims 1 and 5 under 35 USC §102(b) as being anticipated by CAPPARELLA et al.

Although EP '791 describes manganese dioxide for primary batteries with a phosphorus content of 0.05-2.0% by weight, EP '791 fails to describe or suggest soda neutralized manganese dioxide.

In view of the above remarks, applicants respectfully request reconsideration and withdrawal of the rejection of claims 2 and 6 under 35 USC §103(a) as being unpatentable over CAPPARELLA et al. in view of EP '791 since EP '791 fails to overcome the deficiencies of CAPPARELLA et al. as previously described.

NAGAYAMA et al. describe a process for producing lithium manganate having a spinel structure. NAGAYAMA et al. describe mixing the neutralized electrolytic manganese dioxide with a lithium raw material prior to heating the mixture.

Claim 3 has been amended to recite the language "the process consisting essentially of". Applicants respectfully submit that the above language in claim 3 would exclude the step of mixing the neutralized electrolytic manganese oxide with a lithium raw material, as required by NAGAYAMA et al. prior to the step of heating the mixture.

In view of the above amendments and remarks, applicants respectfully request reconsideration and withdrawal of the rejection of claim 3 under 35 USC §102(e) as being anticipated by NAGAYAMA et al.

NAGAYAMA et al. describe the production of lithium manganate for secondary batteries, while EP '791 describe the production of manganese dioxide for primary batteries.

While EP '791 describe manganese dioxide with a phosphorus content of 0.05-2.0% by weight, EP '791 fails to describe or suggest soda neutralized manganese dioxide.

In view of the above amendments and remarks, applicants respectfully request reconsideration and withdrawal of the rejection of claim 4 under 35 USC §103(a) as being unpatentable over NAGAYAMA et al. in view of EP '791, as EP '791 fails to overcome the deficiencies of NAGAYAMA et al.

New claims 7 and 8 recite manganese dioxide produced by the process of claims 3 and 4 respectively. New claims 9 and 10 recite a lithium primary battery comprising the manganese dioxide of claims 7 and 8, respectively.

Applicants respectfully submit that the manganese dioxide and the lithium primary battery recited in claims 7-10 are neither described by, nor would have been obvious to one of ordinary skill in the art, over CAPPARELLA et al., NAGAYAMA et al., and EP '791, either alone or in any combination thereof.

In light of the amendments discussed above, applicants believe that the present application is in condition for allowance and an early indication of the same is respectfully requested.

If the Examiner has any questions or requires clarification of any of the above points, the Examiner is

SUMIDA et al. S.N. 09/752,781

asked to contact the undersigned agent so that this application may continue to be expeditiously advanced.

Attached hereto is a marked-up version of the changes made to the claims by the current amendment. The attached page is captioned "Version with markings to show changes made."

Respectfully submitted,

YOUNG & THOMPSON

By



J. Reed Batten, Jr.
Agent for Applicants
Registration No. 27,099
745 South 23rd Street
Arlington, VA 22202
Telephone: 521-2297

September 6, 2002

VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS:

Claim 3 was amended as follows:

--3. (amended) A process for producing manganese dioxide with a sodium content of 0.05 to 0.2% by weight for lithium primary batteries, [comprising] the process consisting essentially of the steps of neutralizing electrolytic manganese dioxide with an aqueous solution containing 2.0 to 5.0g of sodium hydroxide per kg of manganese dioxide and then heating the neutralized manganese dioxide to produce manganese dioxide having a sodium content of 0.05 to 0.2% by weight.--